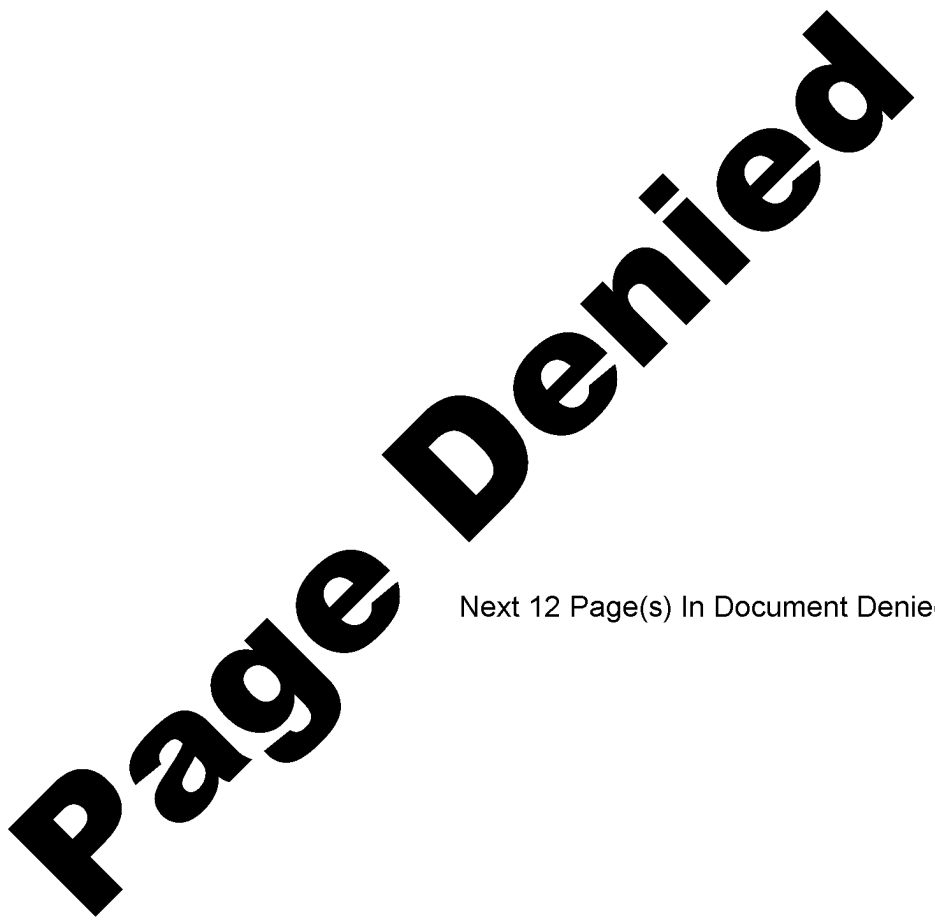

THURSDAY, 8 UGUST 1985

NEW YORK CITY TRIBUNE 2 August 1985 Pg. 1

Germ warfare plants strung across Soviet Union; report reveals

9 sites produce, store 'yellow rain'

Toxins said used on rebels and prisoners

By Peter Samuel
Special to the New York City Tribune

WASHINGTON — Government sources here have identified the location of nine establishments in the Soviet Union where germ warfare materials are researched, produced and stored.

Three establishments are described as "confirmed" and six others as "suspect." According to an active intelligence officer, a report titled *Soviet Non-Compliance with Arms Control Agreements* and dated January 1984 gives the details, some of which were revealed to the *New York City Tribune*.

The "confirmed installations" are described as the Microbiology and Virology Institute in Cantonment 19 in the city of Sverdlovsk tute of Sanitation in Zagorsk. The report says these are "known to be major [Biological Warfare] BW-related research and production installations."

The official report says the two facilities have "highly secure special storage areas designed for weapons assembly and storage." Both were built in 1968 and are under heavy military guard.

The report lists five sites suspected of biological warfare materials production. These are in the cities of Aksu, Berdsk, Kurgan, Omutninsk and Penza. They have special buildings and storage areas separate from the rest of the plant that are arranged identically with the special storage facilities at the two confirmed BW plants. Berdsk was completed in 1970.

An eighth special BW area is suspected at Malta, near Irkutsk, but for storage only, not production. It has a special guard force based in a small barracks, as at the confirmed plants in Sverdlovsk and Zagorsk.

The storage areas are thought likely to house special explosives used to disperse the germ materials.

Most of the biological weapons materials are produced in factories and laboratories engaged in legitimate work on pharmaceuticals, medical science, agriculture and food processing.

A special division of the Microbiology Industry Organization was created in the early 1970s specially to develop biological weapons. It's chief in early 1984 was Gen. V.I. Ogarkov. It is not known if the general is related to Marshal Nikolai Ogarkov, now head of Warsaw Pact forces.

'New class of agents'

The Soviet Union is developing what is described as a "new class of CBW (chemical and biological weapon) agents that can be rapidly produced for deployment," making use of recent advances in biotechnology, including genetic engineering. Some of the compounds developed under this program are thought to be available now for extensive field tests. They would then need to be "weaponized" and coupled with explosive spreader devices. Their testing as finished weapons is thought likely to occur some time in the next 5 years.

The work on the new class of genetically engineered CBW agents is conducted at a new molecular biology institute spun off from the Microbiology Industry Organization at the city of Koltsovo. It is a small, heavily guarded establishment designed for the storage of small quantities of microorganisms which can be used to rapidly breed up large quantities of agents near the time they are to be used.

One of the older BW establishments at Cantonment 19 in Sverdlovsk was the source of an accident in April 1979, said to have been an epidemic of anthrax. Between 200 and 1,000 people died, after suddenly being hit by high fever and respiratory distress. The military took over the entire area, vaccinating people against the BW agent that had escaped, and spraying a decontaminant, chloramine, from planes. Bodies of victims were put in specially sealed coffins.

The report repeats the earlier U.S. government conclusion that "yellow rain," described by its chemical name as trichothecene mycotoxins, has long been a Soviet CBW agent. The mycotoxins were developed by the Soviets, apparently after some decades of research; they have been used in Afghanistan, Laos and Cambodia, and have been supplied to Vietnamese forces.

Yellow rain, 4 decades ago

Russian POWs held by the Germans in World War II reported the use of a CBW agent called Lebeda, a yellow-brown powder, now thought to have been an early version of the yellow rain agent. There was a devastating accident in the Orenburg District of the Soviet Union during the war, attributed to Lebeda in which the victims showed yellow rain symptoms. This accident is thought to have been the result of carelessness in handling early mycotoxin agents.

The first known use of mycotoxins as weapons was in 1976 in Laos when villagers were sprayed from planes. The agent produced skin blisters, vomiting, diarrhea and often death. Later attacks occurred in Cambodia and Afghanistan.

The United States got samples from sites of the attacks, the report says — including mycotoxin contamination in a Soviet protective gas mask, human blood and human tissue from victims — all of which later "confirmed that toxins were being used as agents of warfare."

"Various mycotoxins, produced by fungi of the fusarium genus have been identified as components of yellow rain. Data from the chemical

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Soviet Biological Warfare Facilities

analyses — coupled with hundreds of reports over many years from victims, eyewitnesses, medical and relief workers, journalists, defectors and foreign government investigations — [shows that] the Soviets are directly involved in Laos in support of chemical warfare operations, including storage and inspection of CW and toxin agents."

In Afghanistan, Soviet forces have conducted the chemical attacks, but in Laos and Cambodia, the Vietnamese have used the mycotoxin weapons.

By 1983 the incidence of mycotoxin attacks in the three countries had declined. The Soviets appeared to substitute an incapacitating agent, or agents, in place of the lethal mycotoxin.

From the 1940s on, there has been research on mycotoxins, says the U.S. government report: "The Soviets conducted toxicity studies on humans [prisoners] and investigated techniques for enhancing the toxic effects by combining various different toxins. It is possible the yellow rain agent used in Afghanistan and southeast Asia was derived from this research program."

Soviet literature has indicated "that they expect biological agents to be used in a future conflict," the report says. The toxins are sometimes referred to in Soviet documents as "third generation chemical warfare agents."

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Why The U.S. Insists On On-Site Checks Of Nuclear Testing

BY PETER SAMUEL

While the Reagan administration believes the Soviets have been cheating on nuclear testing treaties, the evidence is not precise—in large measure because of uncertainties over the geology of Russian test sites. The administration believes these uncertainties probably could be resolved only by the kind of on-site inspection of nuclear tests that the United States last week offered to the Soviet Union.

The Soviet Union is unlikely to respond in kind to the American offer. But unless they do, American estimates of the size of Soviet blasts are unreliable, according to administration analysts. Documents prepared by White House experts last year, as the administration stepped up its charges of a number of Russian treaty violations, indicate that the best available U.S. intelligence could be off base by as much as a factor of two.

The documents, prepared as part of an assessment of Soviet noncompliance with arms control agreements, include a paper on "nuclear testing over 150 kilotons." They support the view that such tests have occurred, as the Soviets seek to build bigger nuclear devices and to research innovative weapons such as X-ray lasers.

The Threshold Test Ban Treaty (TTBT) signed in July 1974 is supposed to limit nuclear tests to an explosive yield of 150 kilotons (kt). In order to monitor foreign tests, the U.S. government maintains a network of seismic measuring stations called the Atomic Energy Detection System (AEDS). Measurements of shock waves through the deep interior of the earth are used to estimate the explosive power of the Soviet test detonations. The problem is that the United States does not know details of test site geology or the absorptive qualities of the rock, nor has it been told authoritatively on at least one occasion what yield explosive is being tested so the AEDS equipment can be calibrated. Without that information, only rather uncertain estimates of the yield can be made.

A "factor of two uncertainty" is mentioned in the documents as inherent in test size estimates. This means that the U.S. intelligence estimator who ascribes to a blast a "central value" of 300 kt can only say the probability is 95 percent that such a blast was between half this amount and twice the amount—150 kt to 600 kt. So even with a blast apparently twice the size allowed in the Threshold treaty, there will be an arguable possibility—albeit a small chance—that the blast is under the 150 kt cap.

'Yields of Soviet explosions are estimated by comparing their measured body-wave magnitudes with those from the U.S. and French explosions of known yields," says one administration paper. "The problem is that the seismic waves from Soviet explosions travel through the earth to detecting stations along paths very different from those of the U.S. or French explosions. The seismic transmission characteristics along these various paths may differ."

The other source of uncertainty is the absorptive properties of the rock at the principal Soviet test site at Semipalatansk in Central Asia and how it compares with those at Nevada. U.S. estimates of explosive yield at Semipalatansk contain "bias" corrections for important differences believed to exist between it and the Nevada test site. Intelligence sources assume the rock at Semipalatansk is "granite like" and highly transmissive of the shock generated by the test.

The intelligence community uses this assumption to argue that Soviet yields probably exceed American estimates—and the treaty limits. "To the extent that the assumption of granite like rock at Semipalatansk is wrong, it can only err in the direction of decreased seismic coupling, thus increasing the yield we associate with a given seismic signal," say the administration papers.

"The strength of the seismic wave as it travels away from the Semipalatansk site, is believed to be absorbed much less than a signal of equal strength from NTS [the Nevada Test Site] because of the belief that the interior of the earth beneath NTS is a stronger absorber of seismic energy. An uncertainty exists about this assumption also.'

Similar shock signals at Nevada and Semipalatansk lead U.S. intelligence to an estimate of the Soviet test yield "less than half" that of the Nevada explosion producing the same seismic signal—because of the assumptions about the solidity of the Russian rock relative to the absorptive ground around Nevada.

From the signing of the Threshold treaty through the end of 1983, the Soviets conducted 150 underground tests. Sixteen of these had central value estimates above 150 kt, with the largest being nearly 320 kt and eight above 200 kt. An annex to the report lists the shock wave measurements and yield estimates of the apparent oversized Soviet tests. In 1984, an update document shows, the Soviets conducted 20 new tests. Four were above 150 kt, two were over 200 kt, and the largest just under 300 kt.

The report suggests that the United States may actually be seriously underestimating the yield of Soviet tests by its geological assumptions: "Two factors raise concern that the current procedure results in an underestimation of Soviet yields." First, widely separated areas of the world do not show the geological "bias anomaly" assigned to Semipalatansk. Second, the Soviets doubled the yield of their high-yield tests at almost exactly the time, 1978, that it became known the U.S. was approximately halving its yield estimate from given seismic readings. One interpretation is that "the Soviets who were testing at around 150 kt prior to 1978 took advantage of changed U.S. yield estimation procedures to nearly double their test yields to about 300 kt."

A more innocent interpretation is that the Soviets simply had a military need to test larger warheads after 1978. The report says:

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"There is no direct evidence to support either hypothesis."

But the report discusses "a discrepancy between U.S. estimates of Soviet test yields and U.S. estimates for the yields of Soviet deployed strategic missiles warheads." Between 1973 and 1976 the Soviets deployed five strategic systems with warhead yields between 300 kt and 600 kt. Ninety percent of Soviet warheads are estimated to yield in the range 300 kt and 500 kt. American bias anomaly correction of seismic wave readings of Soviet tests between 1964 and 1976 produced "no Soviet tests" with central yields in the expected range: "Either test yield estimation procedures or National Intelligence Estimate warhead yield figures are wrong." Later the report says that major overestimation of warhead yields is "not viewed as likely" and it gives the ranges of uncertainty for the yield of the Mod 4 warhead of the SS-18 missile. Its minimum probable yield is not far below 400 kt and its maximum probable yield is around a megaton.

Some analysts think "the most likely possibility to explain the discrepancy [between test estimates and warhead estimates] is underestimation of test yields." If they have got estimates of warhead yields right, then current test yields are "low, perhaps by a factor of two."

It is noted that a Soviet disarmament official identified simply as Morokhov said in 1974 that U.S.-published estimates of Soviet test yields were "quite accurate" and that "this would indicate that subsequent (1978) changes by the U.S. in yield estimation methodology were inappropriate."

"The role of high yield warheads in Soviet military planning may provide the U.S.S.R. with the incentive to test above the 150 kt threshold," says the report. "The uncertainties in the U.S. determination of Soviet test yields provide the opportunity."

A further incentive to testing over 150 kt is reportedly "the development of high yield weapons of new design" including earth penetrating warheads, high-beta reentry vehicles, spaceborne X-ray lasers and maneuvering reentry vehicles.

"If the Soviets were to test occasionally up to 300 kt or higher, they could develop efficient miniature warheads with high yield to weight and yield to volume ratios. Such development would allow the Soviets to exploit fully the fractionation possibilities of their ICBMs of larger throw-weight, increase damage expectancy without altering RV characteristics or optimize a warhead for a small, mobile ICBM. Such testing would also allow them to proof-test at full yield new designs up to this yield level and could allow them to certify new warheads using proven technology up to 600 kt or higher based on partial yield testing. These yields (300-600 kt) are consistent with U.S. estimates of the yields of warheads on weapon systems deployed by the Soviet Union in recent years."

The documents, shown to this reporter last week, say testing above 150 kt "helps support a high yield research and development program, which over time could open up new high yield design opportunities and applications.. such activities are essential if the Soviet Union intends to maintain a high yield capability in the long term."

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New Soviet missile violates arms accord, U.S. documents show

ICBM breaches limits of SALT pact

U.S intelligence agency provides new details

By Peter Samuel
Special to the New York City Tribune

WASHINGTON, Aug. 7 — U.S. documents seen by the *New York City Tribune* specifically charge the Soviet Union with violating arms control agreements by introducing a new intercontinental ballistic missile (ICBM).

A special briefing by a U.S. intelligence estimator this week fleshed out, with detailed data, previously rather sketchy American complaints about Soviet arms control violations during the period of the SALT II agreement.

This is the first time the government has revealed its estimate of precisely how the new mobile SS-X-25 ICBM breaches the SALT II limit of a single new missile system, and why it may also be a treaty breach as a multiple warhead missile.

The documents specifically charge Moscow with breaching Article IV, paragraph 9 of SALT II. prohibiting more than one new missile type, and paragraph 10, the so-called "50-percent rule" that bars flight-testing missiles with a warhead less than 50 percent of its throw-weight — intended to prevent covert MIRVing, or surreptitious multiplication of warheads.

On this, the documents state: "Data from the first flight test [of the SS-X-25] permit the determination that the RV [warhead] was 42 plus or minus 1 percent of the [throw-weight] — below the minimum 50 percent stipulated by the Treaty."

Thus, the Soviets could easily accommodate two warheads on the SS-25 missile.

The documents detail the specifics of the charge that the SS-25 is a new missile type. The Soviets have claimed it is merely a modification of the existing SS-13 missile and therefore allowed by arms control treaties. These permit modifications to alter the dimensions of missile size and throw-weight by up to 5 percent.

U.S. estimators say the throw-weight of the SS-25 missile is between 600 kg (1,320 lbs) and 1,200 kg (2,640 lbs), compared to the SS-13 throw-weight of 500 kg (1,100) lbs.

Measurement of the new missile has been hampered by Soviet encryption of telemetry and by concealment of the system, but U.S. estimates assign a low probability to its throw-weight being below 600 kg.

Says a report on the SS-X-25 by the National Security Council's Arms Control Verification Committee:

"If the 500-kg best estimate of the SS-13's throw-weight is used for reference in determining whether the SS-X-25's throw-weight is within the 5-percent increase permitted by the 'modernization' rule, then even the lower bound of the SS-X-25's throw-weight estimate [600 kg] is 20 percent above the SS-13's throw-weight, exceeding the 5 percent maximum. . . . mathematically, there would be a less than 20-percent likelihood that the SS-X-25's throw-weight is between 360 and 720 kg, that is, within 5 percent of the estimated SS-13 throw-weight range."

U.S. has protested 3 times

The United States has made three diplomatic protests to the Soviet Union over the SS-X-25 missile, the report says, including calling a special meeting of the Standing Consultative Commission.

The Soviets there claimed the SS-X-25 "throw-weight is less, not more than the SS-13's." The U.S. delegates sought detailed Soviet figures and methodology, but according to the report: "The Soviets have responded with generalities."

On Oct. 12, 1983, the United States "requested a suspension of SS-X-25 flights, pending resolution of the missile's compatibility with SALT II." The Soviets refused.

The report concludes: "There is no question that, in the commonsense meaning of the word, the SS-X-25 is a new light ICBM, the second such tested since the signing of SALT II.

"It was therefore concluded [publicly] that while the evidence is somewhat ambiguous, the Soviets are probably in violation of their political commitment in that the SS-X-25 probably does not fall within permissible modernization parameters and probably is a prohibited 'new-type' ICBM."

A briefer stressed the extremely cautious and conservative wording of the final public conclusion, saying actual U.S. data provides "clear-cut hard evidence" of Soviet treaty violations.